TRAFFIC IMPACT STUDY

For

Town of Haverstraw Recreation Complex

Property Located at:

Central Highway
Village of West Haverstraw, Rockland County, NY

Prepared by:

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October 23, 2019

0661-99-013TE

CGH

INTRODUCTION

It is proposed to construct a multi-purpose recreational complex (The Project) on a parcel of land located on the northeast corner of the Central Highway intersection with Chapel Street and Cinder Road in the Village of West Haverstraw, Rockland County, New York, see Figure 1, in Appendix A. It is proposed to provide access via one full movement driveway along Chapel Street. Parking will be provided via 250 parking spaces located on the southern and eastern portions of the property. The site is currently undeveloped.

Dynamic Traffic, LLC has been retained to prepare this study to assess the traffic impact associated with the construction of The Project on the adjacent roadway network. This study documents the methodology, analyses, findings and conclusions of our study and includes:

- A detailed field inspection was conducted to obtain an inventory of existing roadway geometry, traffic control, and location and geometry of existing driveways and intersections.

- Existing traffic data was collected via manual turning movement (MTM) counts during the weekday evening and Saturday midday peak periods at the intersection of Central Highway and Chapel Street/Cinder Road.

- Projections of traffic to be generated by The Project were prepared utilizing trip generation data as published by the Institute of Transportation Engineers. Site traffic was then assigned to the adjacent street system based upon the anticipated directional distribution.

- Capacity analyses were conducted for the Existing, No Build, and Build conditions for the study intersections and the site driveway.

EXISTING CONDITIONS

A review of the existing roadway conditions near the proposed site was conducted to provide the basis for assessing the traffic impact of the development. This included field investigations of the surrounding roadways and intersections, collection of traffic volume data, and extensive analyses.

Existing Roadway Conditions

The following are descriptions of the roadways in the study area:

Central Highway (CR 33) is an urban minor arterial roadway under the jurisdiction of Rockland County. In the vicinity of the site the posted speed limit is 30 MPH and the roadway provides one travel lane in each direction with a general north south orientation. Curb and sidewalk is provided along both sides of the roadway and on street parking is not permitted. Central Highway provides a straight horizontal alignment and a relatively flat vertical alignment. The land uses along Central Highway in the vicinity of The Project are a mix of residential and commercial.

Chapel Street is a local roadway under the jurisdiction of the Village of West Haverstraw. In the vicinity of the site the speed limit is not posted and the roadway provides one lane to accommodate each direction of travel. Parking is not permitted along either side of the roadway. Curb and sidewalk are provided along portions of the south side of the roadway. Chapel Street provides a straight horizontal alignment and a relatively flat vertical alignment. The land uses along Chapel Street in the vicinity of The Project include the North Rockland Central School District office and the Helen Hayes Hospital.

Cinder Road is a local roadway under the jurisdiction of the Village of West Haverstraw. In the vicinity of the site the speed limit is not posted and the roadway provides one lane to accommodate each direction of travel. Parking is not permitted along either side of the roadway. Curb and sidewalk are provided along the southern side of the roadway. Cinder Road provides a straight horizontal alignment and a climbing vertical alignment from east to west. The land uses along Cinder Road in the vicinity of The Project are primarily residential.

Existing Traffic Volumes

Manual turning movement (MTM) counts were conducted on Wednesday, October 2, 2019 between 4:30 and 6:30 PM and on Saturday, October 5, 2019 between 11:00 AM and 2:00 PM, at the intersection of Central Highway with Chapel Street/Cinder Road. Review of the collected traffic data reveals that the weekday evening peak street hour (PSH) occurs from 4:45 – 5:45 PM and the Saturday midday PSH occurs from 11:30 AM – 12:30 PM. Figure 2, located in Appendix A, shows the existing peak hour traffic volumes at the study intersections. In addition to the vehicular manual turning movements, pedestrian crossing volumes were also counted during each of the peak periods.

Existing Capacity Analysis

The methodology utilized in the capacity analyses is described in the *Highway Capacity Manual 2010*, published by the Transportation Research Board. In general, the term Level of Service (LOS) is used to provide a "qualitative" evaluation of capacity based upon certain "quantitative" calculations related to empirical values, such as traffic volume and intersection control.

At the signalized intersections, factors that affect the various approach capacities include width of approach, number of lanes, traffic signal "green time", turning percentages, truck volumes, etc. However, delays cannot be related to capacity in a simple one-to-one fashion. For example, it is possible to have delays in the Level of Service "F" range without exceeding roadway capacity. Substantial delays can exist without exceeding capacity if one or more of the following conditions exist: long traffic signal cycle lengths; a particular traffic movement experiences a long red time; or progressive movement for a particular lane group is poor. Table I describes the Level of Service ranges for signalized intersections.

An unsignalized (STOP sign controlled) driveway or side street along a through route is seldom critical from an overall capacity standpoint, however, it may be of great significance to the capacity of the minor cross-route, and it may influence the quality of traffic flow on both. When analyzing an unsignalized intersection, it is assumed that both the major street through and right turn movements are unimpeded and have the right-of-way over all side street traffic and left turns from the major street. All other turning movements in the intersection cross, merge with, or are otherwise impeded by major street movements. Traffic delays at unsignalized intersections are determined by sequentially processing these impeded movements. Table II describes the Level of Service ranges for unsignalized (stop controlled) intersections.

Table I
Level of Service Criteria
for Signalized Intersections

Level of Service	Average Control Delay (seconds per vehicle)
A	0.0 to 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	greater than 80.0

Table II
Level of Service Criteria
for Unsignalized Intersections

Level of Service	Average Control Delay (seconds per vehicle)
a	0.0 to 10.0
b	10.1 to 15.0
c	15.1 to 25.0
d	25.1 to 35.0
e	35.1 to 50.0
f	greater than 50.0

It should be noted that the analyses within the *Highway Capacity Manual* assume a random arrival for all the movements, which may not be the case if an adjacent traffic signal is present that platoons vehicles.

All capacity analyses were performed utilizing the Synchro software package (Synchro 10). Table III summarizes the existing Levels of Service (LOS) and delays. All capacity analysis calculation worksheets are contained in Appendix C.

Table III
Existing Levels of Service

Intersection	Direction/ Movement		PM PSH	SAT PSH
Central Highway & Chapel Street/Cinder Road	EB	LTR	B (15)	B (15)
	WB	LTR	C (21)	B (15)
	NB	L	A (8)	A (8)
		TR	B (11)	B (10)
	SB	L	A (10)	A (8)
		TR	A (10)	A (10)
	Overall		B (14)	B (11)

A (#) - Signalized Intersection Level of Service (seconds of delay per vehicle)

The following are discussions pertaining to each of the existing intersections analyzed. All capacity analysis calculation worksheets are contained in Appendix C.

Central Highway and Chapel Street/Cinder Road

Central Highway intersects Chapel Street and Cinder Road to form a four leg intersection controlled by a two-phase traffic signal. The northbound and southbound approaches of Central Highway each provide a dedicated left turn lane and a shared through/right turn lane. The eastbound approach of Cinder Road provides a shared left turn/through/right turn lane. The westbound approach of Chapel Street provides a shared left turn/through/right turn lane.

A review of the existing analysis reveals that the intersection operates at overall Level of Service "B" during the analyzed peak periods. See Table III for the individual movement Levels of Service and delays.

FUTURE CONDITIONS

Traffic volumes and operational analyses were developed for both the Future No Build and Build conditions. The No Build conditions provide a baseline for assessing the impact of site development traffic on the roadway system. The process of developing the No Build and Build traffic volumes and the subsequent analyses is outlined below.

Regardless of whether the subject site is developed or not, traffic volumes on the surrounding roadways are expected to increase as a result of developments throughout the region. A 2% growth rate per year for roadways within the study area was assumed to account for ongoing regional growth.

Future No Build Traffic Volumes which are shown on Figure 3, were developed by applying the background growth rate identified above for two (2) years to the study area roadways Existing Traffic Volumes and adding the adjacent development traffic volumes.

Traffic Generation

Projections of future traffic volumes for the proposed project were developed utilizing data as published in the Institute of Transportation Engineers (ITE) publication *Trip Generation Manual, 10th Edition* for Land Use Code (LUC) 488 – Soccer Complex as it most closely resembles the traffic generation characteristics of the proposed recreation complex. Table IV summarizes the projected vehicular trips generated by the proposed development utilizing the ITE data.

Table IV
Trip Generation

Land Use	PM PSH			SAT PSH		
	In	Out	Total	In	Out	Total
Soccer Complex (3 Fields)	51	26	77	58	62	120

Once the magnitude of traffic to be generated by the site is known, it is necessary to assign that traffic to the adjacent street system. The distribution of new traffic to the surrounding roadways is based on the location of primary arterial roadways, major signalized intersections and existing traffic patterns. Located in Appendix A, Figure 4 illustrates the vehicular Site Generated Volumes assigned to the study area network. The site generated vehicular volumes were added to the Future No Build traffic volumes to generate the Future Build Traffic Volumes, which are shown in Figure 5.

Future Capacity Analysis

Operational conditions at the study intersections were analyzed under the No Build and Build conditions and are summarized in Table V below.

Table V
Future Levels of Service

Intersection	Direction/ Movement		PM PSH		SAT PSH	
			No Build	Build	No Build	Build
Central Highway & Chapel Street/Cinder Road	EB	LTR	B (15)	B (15)	B (15)	B (15)
	WB	LTR	C (22)	C (23)	B (16)	B (17)
	NB	L	A (8)	A (8)	A (8)	A (8)
		TR	B (11)	B (12)	B (10)	B (11)
	SB	L	A (10)	A (11)	A (8)	A (9)
		TR	A (10)	A (10)	A (10)	A (10)
	Overall		B (14)	B (15)	B (11)	B (12)
Chapel Street & Site Driveway	EB	LT	-	a (8)	-	a (8)
	SB	L	-	b (14)	-	b (10)
		R	-	b (11)	-	a (9)
Internal Roundabout	EB	TR	-	a (3)	-	a (3)
	WB	LT	-	a (3)	-	a (3)
	NB	LR	-	a (3)	-	a (3)

A (#) - Signalized Intersection Level of Service (seconds of delay per vehicle)
a (#) - Unsignalized Intersection Level of Service (seconds of delay per vehicle)

Central Highway and Chapel Street/Cinder Road

With the addition of the site traffic the intersection will continue to operate at overall Level of Service "B" during the analyzed peak hours, maintaining the No Build Levels of Service. See Table V for the individual movement Levels of Service and delays.

Chapel Street and Site Driveway

The site driveway is proposed to intersect Chapel Street to form an unsignalized T-intersection with the southbound approach of the site driveway under stop control. The eastbound and westbound approaches of Chapel Street will provide a shared left turn/through lane and a shared through/right turn lane respectively. The southbound approach will provide a left turn lane and a right turn lane.

As designed, the individual intersection movements will operate at Level of Service "B" or better during the analyzed peak hours. See Table V for the individual movement Levels of Service and delays.

Internal Roundabout

The site driveway is proposed to intersect the internal access aisle to form a three-leg single lane roundabout. The eastbound and westbound approaches of the access aisle will each provide one entry lane operating under yield control with a splitter island separating both directions of traffic. The northbound approach of the site driveway will provide one entry lane operating as a free flowing condition with a curbed island separating both directions of traffic.

As designed, the individual intersection movements will operate at Level of Service "A" during the analyzed peak hours. It should be noted Level of Service "A" translates to a 95th percentile queue length of approximately 1 vehicle, which will not negatively impact the traffic flow along Chapel Street or the internal site traffic. See Table V for the individual movement Levels of Service and delays.

FINDINGS & CONCLUSIONS

Findings

Based upon the detailed analyses as documented herein, the following findings are noted:

- The proposed recreation complex will generate a maximum of 51 entering trips and 26 exiting trips during the weekday evening peak hour, and 58 entering trips and 62 exiting trips during the Saturday peak hour.
- Access to the site will be provided via one full movement driveway along Chapel Street.
- With the addition of the site generated traffic, the overall intersection of Central Highway with Chapel Street and Cinder Road will continue to operate at overall Level of Service "B" during the studied peak hours, maintaining the No Build Levels of Service.
- As proposed, the individual intersection movements of Chapel Street and the proposed site driveway will operate at Level of Service "B" or better during the studied peak hours.
- As proposed, the individual intersection movements of the proposed internal roundabout will operate at Level of Service "A" during the studied peak hours.

Conclusions

Based upon our Traffic Impact Study as detailed in the body of this report, it is the professional opinion of Dynamic Traffic, LLC that the adjacent street system of the Village of West Haverstraw and Rockland County will not experience any significant degradation in operating conditions with the construction of The Project. The site driveway is located to provide safe and efficient access to the adjacent roadway system.

Appendix A
Traffic Volume Figures

Proposed Recreation Complex
Traffic Impact Study
0661-99-013TE
10/23/2019

Figure 1

Site Location Map

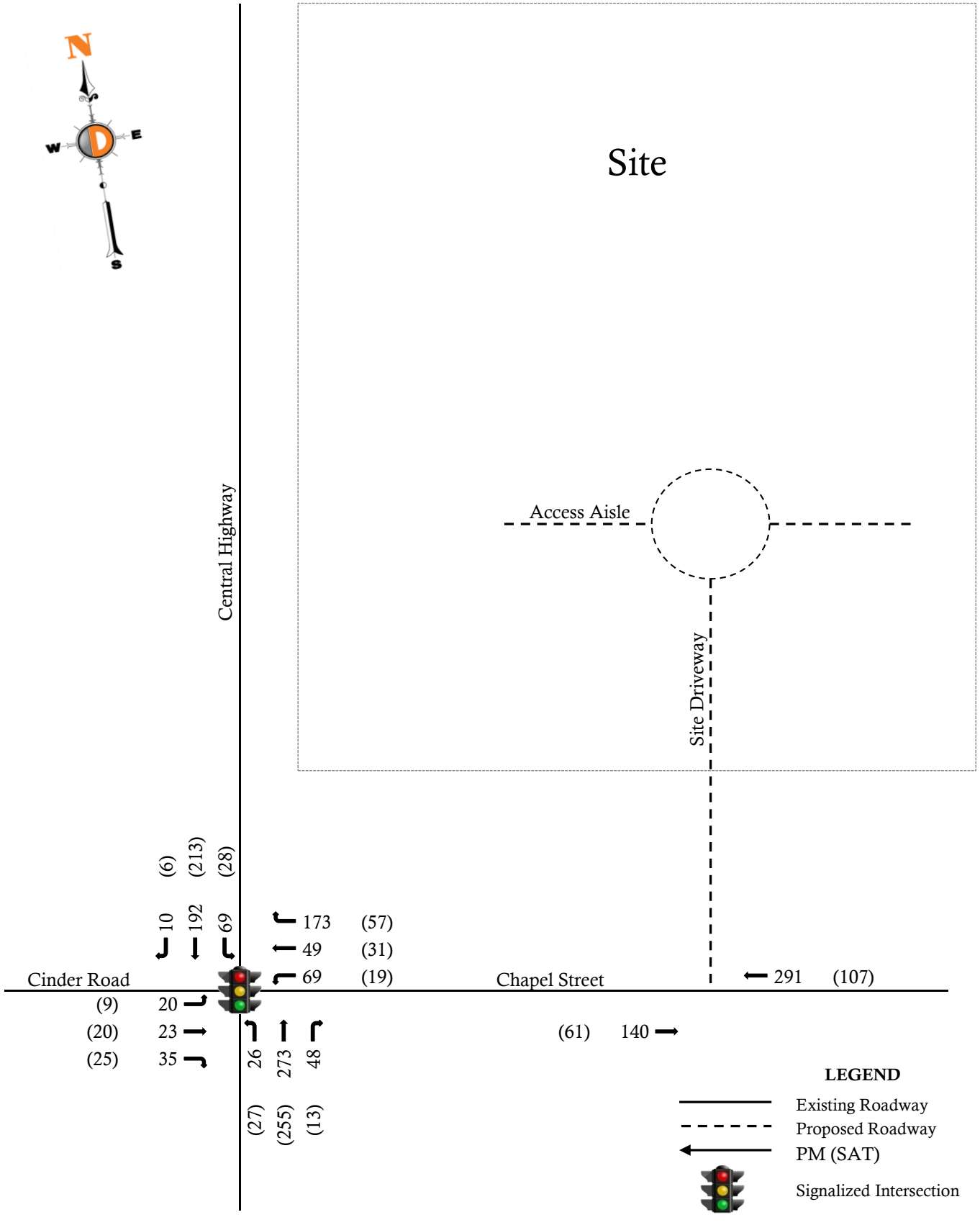

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Figure 2

Existing Traffic Volumes

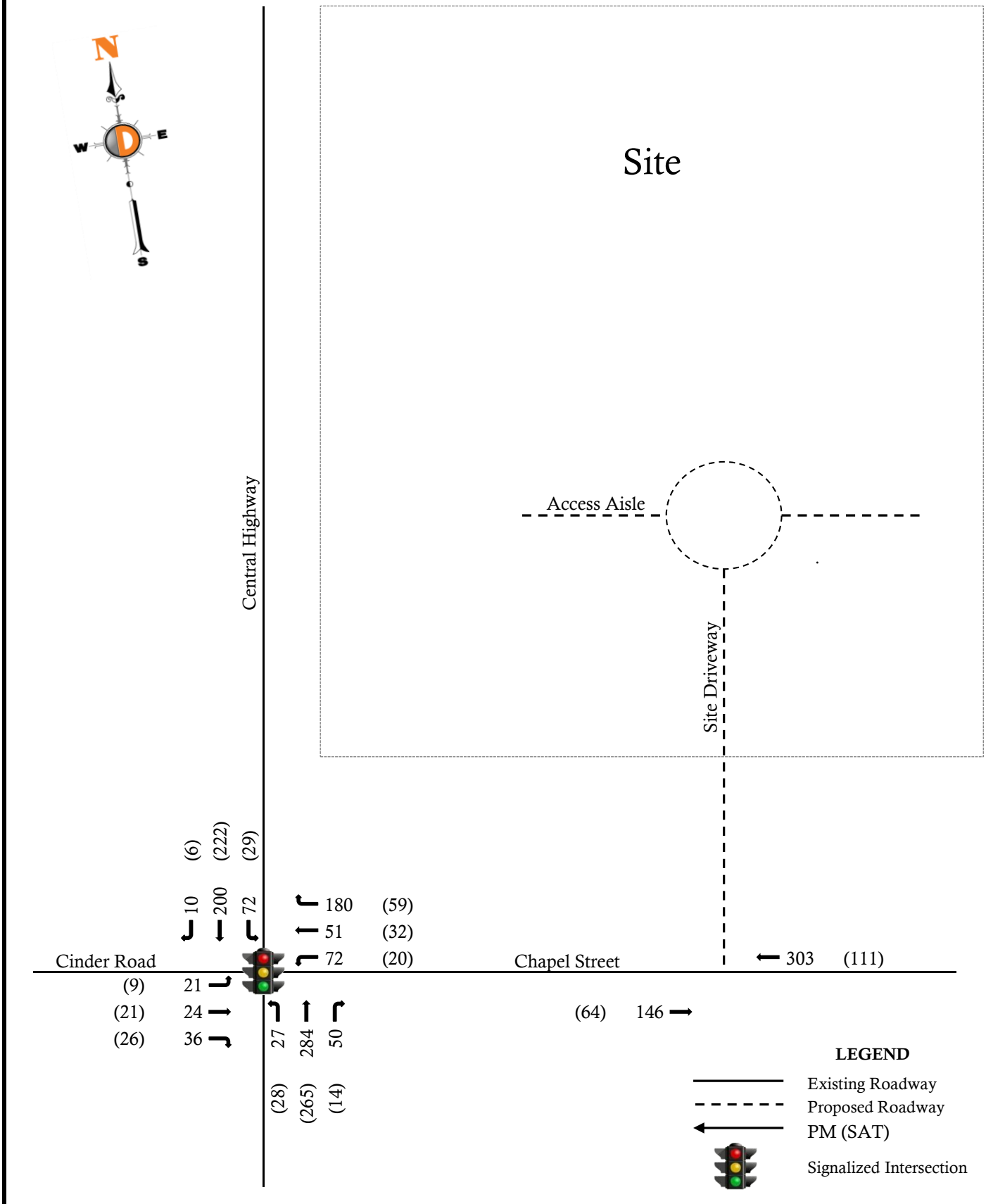

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Figure 3

No Build Traffic Volumes

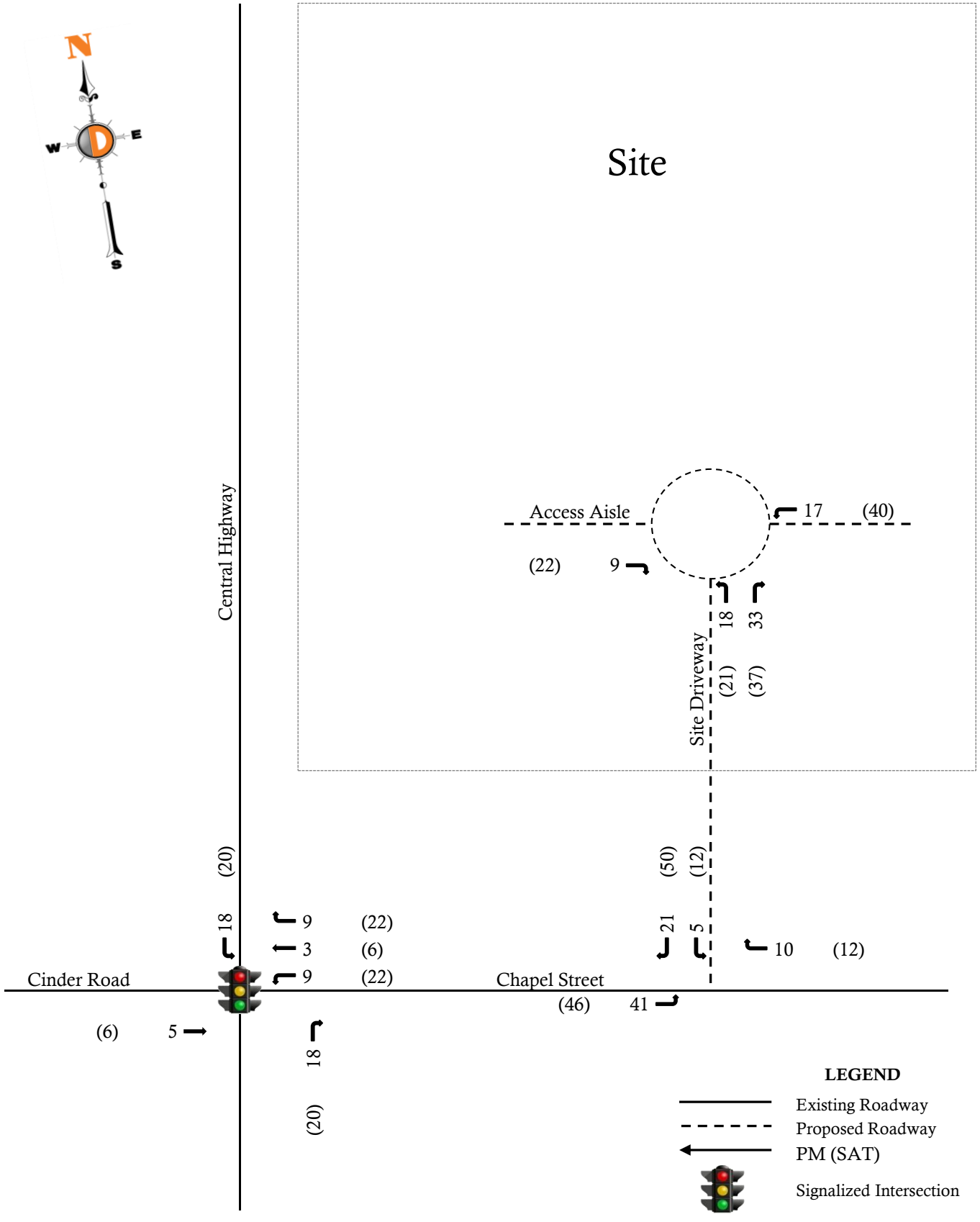

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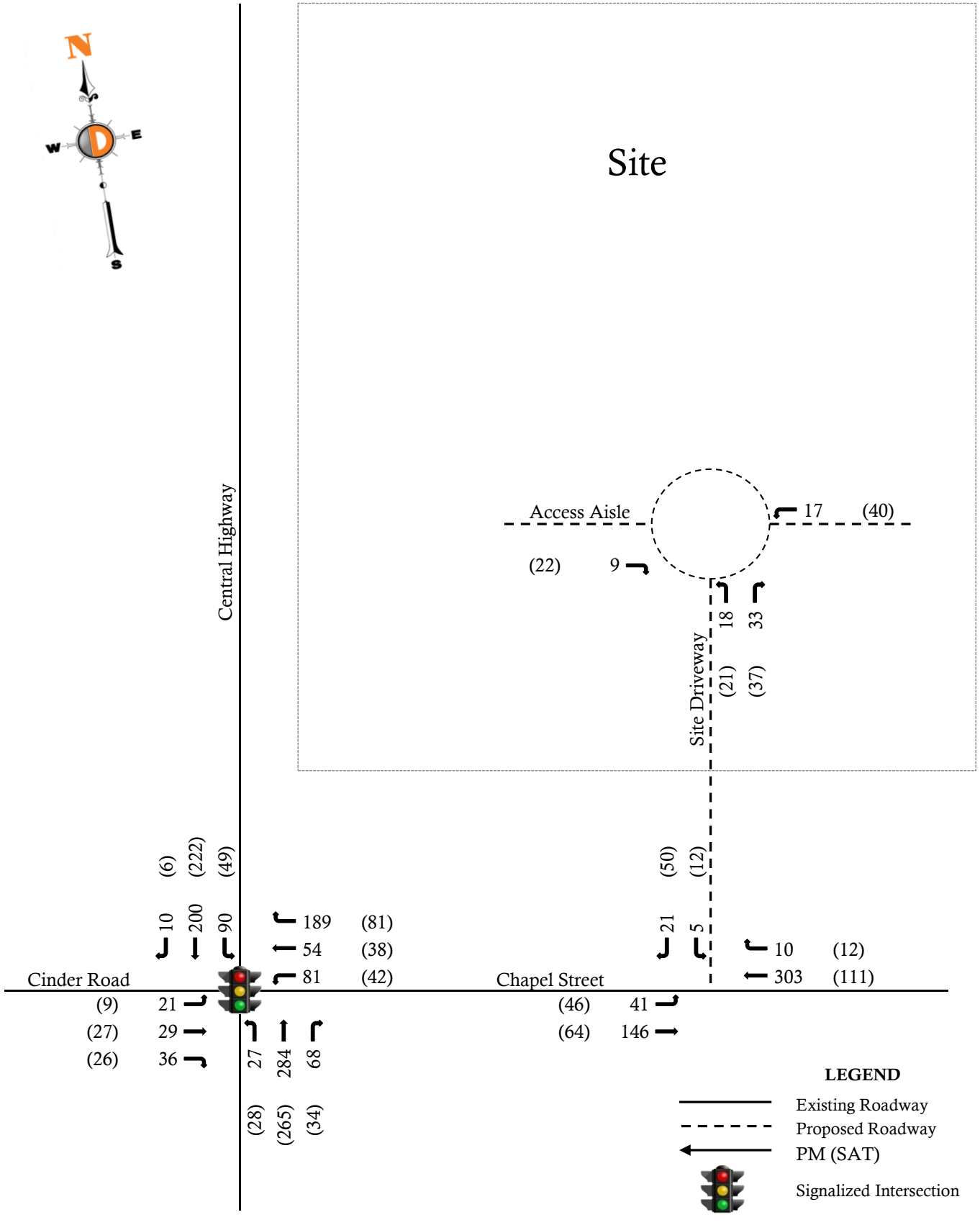
Figure 4

Site Generated Trips



Proposed Recreation Complex
Traffic Impact Study
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Figure 5

Build Traffic Volumes

Appendix B
Traffic Counts

Dynamic Traffic, LLC

1904 Main Street, Lake Como, NJ 07719
245 Main Street - Suite 110, Chester, NJ 07930
732-681-0760

E/W: Cinder Rd/Chapel St
N/S: Central Hwy
Town/County: Haverstra/Rockland
Job #: 0661-99-013TE

File Name : Central Hwy and Chapel St and Cinder Rd - PM
Site Code : 00000000
Start Date : 10/2/2019
Page No : 1

Groups Printed- Cars - Trucks (SU) - Trucks (TT)

	Cinder Road Eastbound					Chapel Street Westbound					Central Highway (Route 33) Northbound					Central Highway (Route 33) Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:30 PM	2	8	4	0	14	10	14	17	0	41	5	59	7	0	71	13	58	2	0	73	199
04:45 PM	7	8	5	1	21	25	17	70	0	112	6	61	6	0	73	10	53	4	0	67	273
Total	9	16	9	1	35	35	31	87	0	153	11	120	13	0	144	23	111	6	0	140	472
05:00 PM	7	5	11	0	23	15	11	39	0	65	10	56	11	0	77	20	52	5	0	77	242
05:15 PM	5	6	11	0	22	15	11	31	0	57	5	77	11	0	93	18	39	0	0	57	229
05:30 PM	1	4	8	0	13	14	10	33	0	57	5	79	20	0	104	21	48	1	0	70	244
05:45 PM	7	6	6	0	19	17	8	31	0	56	6	77	6	0	89	11	48	0	0	59	223
Total	20	21	36	0	77	61	40	134	0	235	26	289	48	0	363	70	187	6	0	263	938
06:00 PM	3	7	0	1	11	9	9	13	0	31	4	60	4	0	68	12	51	3	0	66	176
06:15 PM	4	6	9	0	19	9	6	14	0	29	2	54	3	0	59	6	55	4	0	65	172
Grand Total	36	50	54	2	142	114	86	248	0	448	43	523	68	0	634	111	404	19	0	534	1758
Apprch %	25.4	35.2	38	1.4		25.4	19.2	55.4	0		6.8	82.5	10.7	0		20.8	75.7	3.6	0		
Total %	2	2.8	3.1	0.1	8.1	6.5	4.9	14.1	0	25.5	2.4	29.7	3.9	0	36.1	6.3	23	1.1	0	30.4	
Cars	35	47	53	2	137	110	85	243	0	438	42	520	61	0	623	106	388	19	0	513	1711
% Cars	97.2	94	98.1	100	96.5	96.5	98.8	98	0	97.8	97.7	99.4	89.7	0	98.3	95.5	96	100	0	96.1	97.3
Trucks (SU)	1	3	1	0	5	4	1	5	0	10	1	3	7	0	11	5	16	0	0	21	47
% Trucks (SU)	2.8	6	1.9	0	3.5	3.5	1.2	2	0	2.2	2.3	0.6	10.3	0	1.7	4.5	4	0	0	3.9	2.7
Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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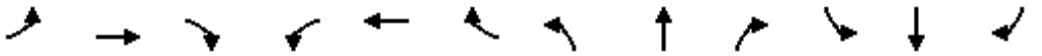
File Name : Central Hwy and Chapel St and Cinder Rd - SAT
Site Code : 00000000
Start Date : 10/5/2019
Page No : 1

Groups Printed- Cars - Trucks (SU) - Trucks (TT)

	Cinder Road Eastbound					Chapel Street Westbound					Cemtral Highway (Route 33) Northbound					Cemtral Highway (Route 33) Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	2	7	7	2	18	1	6	8	0	15	1	61	2	1	65	12	48	1	0	61	159
11:15 AM	1	5	5	3	14	4	4	10	0	18	2	51	6	0	59	11	44	3	0	58	149
11:30 AM	3	6	5	1	15	4	11	10	0	25	9	52	3	0	64	8	53	2	0	63	167
11:45 AM	0	2	8	0	10	3	6	21	1	31	7	70	1	0	78	7	62	1	0	70	189
Total	6	20	25	6	57	12	27	49	1	89	19	234	12	1	266	38	207	7	0	252	664
12:00 PM	3	8	5	1	17	7	7	10	2	26	8	66	5	0	79	6	55	3	0	64	186
12:15 PM	3	4	7	0	14	5	7	16	0	28	3	67	4	1	75	7	43	0	0	50	167
12:30 PM	1	3	2	2	8	2	9	10	0	21	3	56	4	1	64	7	47	6	0	60	153
12:45 PM	2	9	7	0	18	4	3	14	0	21	6	44	2	1	53	6	69	4	0	79	171
Total	9	24	21	3	57	18	26	50	2	96	20	233	15	3	271	26	214	13	0	253	677
01:00 PM	4	9	5	0	18	3	0	9	0	12	8	52	0	0	60	5	53	5	0	63	153
01:15 PM	2	6	5	3	16	6	7	14	0	27	5	57	4	0	66	7	58	2	0	67	176
01:30 PM	2	4	8	1	15	1	3	15	0	19	2	56	3	1	62	6	54	1	0	61	157
Grand Total	23	63	64	13	163	40	63	137	3	243	54	632	34	5	725	82	586	28	0	696	1827
Apprch %	14.1	38.7	39.3	8		16.5	25.9	56.4	1.2		7.4	87.2	4.7	0.7		11.8	84.2	4	0		
Total %	1.3	3.4	3.5	0.7	8.9	2.2	3.4	7.5	0.2	13.3	3	34.6	1.9	0.3	39.7	4.5	32.1	1.5	0	38.1	
Cars	23	63	62	13	161	34	63	132	3	232	54	621	28	5	708	77	577	28	0	682	1783
% Cars	100	100	96.9	100	98.8	85	100	96.4	100	95.5	100	98.3	82.4	100	97.7	93.9	98.5	100	0	98	97.6
Trucks (SU)	0	0	2	0	2	6	0	5	0	11	0	10	6	0	16	5	8	0	0	13	42
% Trucks (SU)	0	0	3.1	0	1.2	15	0	3.6	0	4.5	0	1.6	17.6	0	2.2	6.1	1.4	0	0	1.9	2.3
Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
% Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0.1	0	0.2	0	0	0.1	0.1

Appendix C
Capacity Analysis

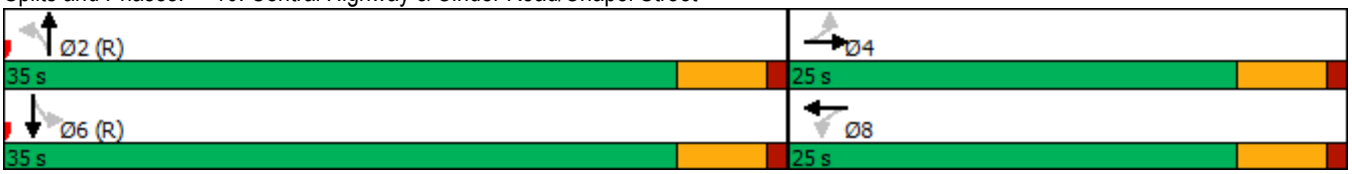


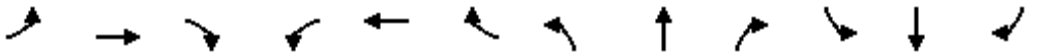
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	23	35	69	49	173	26	273	48	69	192	10
Future Volume (vph)	20	23	35	69	49	173	26	273	48	69	192	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15	11	12	12	11	12	12
Grade (%)		-5%			3%			1%			3%	
Storage Length (ft)	0		0	0		0	120		0	115		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			No			No			No			No
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		264			299			436			513	
Travel Time (s)		7.2			8.2			9.9			11.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	0%	3%	2%	1%	4%	1%	8%	4%	4%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	85	0	0	320	0	29	353	0	76	222	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		58.3%	58.3%		58.3%	58.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.0			20.0		30.0	30.0		30.0	30.0	
Actuated g/C Ratio		0.33			0.33		0.50	0.50		0.50	0.50	
v/c Ratio		0.16			0.57		0.05	0.39		0.17	0.25	
Control Delay		15.1			21.3		8.1	10.9		9.5	9.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		15.1			21.3		8.1	10.9		9.5	9.5	
LOS		B			C		A	B		A	A	
Approach Delay		15.1			21.3			10.7			9.5	
Approach LOS		B			C			B			A	
Queue Length 50th (ft)		21			93		5	73		14	42	
Queue Length 95th (ft)		49			165		16	126		35	78	
Internal Link Dist (ft)		184			219			356			433	
Turn Bay Length (ft)							120			115		
Base Capacity (vph)		531			562		544	905		441	895	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.16			0.57		0.05	0.39		0.17	0.25	

Intersection Summary

Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 13.9		Intersection LOS: B	
Intersection Capacity Utilization 84.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 10: Central Highway & Cinder Road/Chapel Street



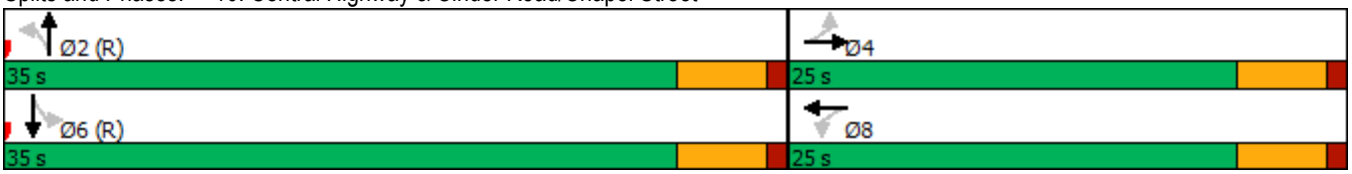


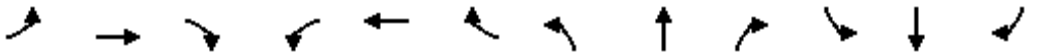
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	20	25	19	31	57	27	255	13	28	213	6
Future Volume (vph)	9	20	25	19	31	57	27	255	13	28	213	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15	11	12	12	11	12	12
Grade (%)		-5%			3%			1%			3%	
Storage Length (ft)	0		0	0		0	120		0	115		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			No			No			No			No
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		264			299			436			513	
Travel Time (s)		7.2			8.2			9.9			11.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	11%	0%	4%	0%	2%	15%	7%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	58	0	0	114	0	29	285	0	30	233	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		58.3%	58.3%		58.3%	58.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.0			20.0		30.0	30.0		30.0	30.0	
Actuated g/C Ratio		0.33			0.33		0.50	0.50		0.50	0.50	
v/c Ratio		0.10			0.20		0.05	0.31		0.06	0.25	
Control Delay		14.5			15.4		8.1	10.1		8.2	9.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		14.5			15.4		8.1	10.1		8.2	9.5	
LOS		B			B		A	B		A	A	
Approach Delay		14.5			15.4			9.9			9.4	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		14			29		5	56		5	44	
Queue Length 95th (ft)		36			61		16	100		17	81	
Internal Link Dist (ft)		184			219			356			433	
Turn Bay Length (ft)							120			115		
Base Capacity (vph)		582			584		560	914		483	914	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.10			0.20		0.05	0.31		0.06	0.25	

Intersection Summary

Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.31			
Intersection Signal Delay: 10.9		Intersection LOS: B	
Intersection Capacity Utilization 50.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Central Highway & Cinder Road/Chapel Street



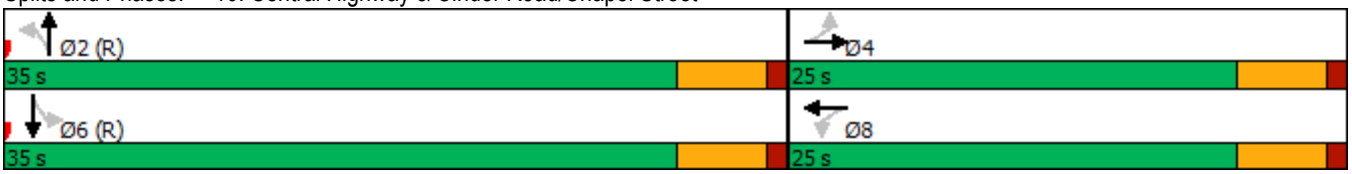


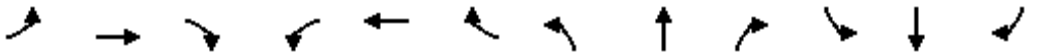
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	24	36	72	51	180	27	284	50	72	200	10
Future Volume (vph)	21	24	36	72	51	180	27	284	50	72	200	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15	11	12	12	11	12	12
Grade (%)		-5%			3%			1%			3%	
Storage Length (ft)	0		0	0		0	120		0	115		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			No			No			No			No
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		264			299			436			513	
Travel Time (s)		7.2			8.2			9.9			11.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	0%	3%	2%	1%	4%	1%	8%	4%	4%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	0	0	333	0	30	367	0	79	231	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		58.3%	58.3%		58.3%	58.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.0			20.0		30.0	30.0		30.0	30.0	
Actuated g/C Ratio		0.33			0.33		0.50	0.50		0.50	0.50	
v/c Ratio		0.17			0.59		0.06	0.41		0.18	0.26	
Control Delay		15.2			21.9		8.1	11.1		9.7	9.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		15.2			21.9		8.1	11.1		9.7	9.6	
LOS		B			C		A	B		A	A	
Approach Delay		15.2			21.9			10.9			9.6	
Approach LOS		B			C			B			A	
Queue Length 50th (ft)		22			98		5	77		15	44	
Queue Length 95th (ft)		50			172		16	132		36	81	
Internal Link Dist (ft)		184			219			356			433	
Turn Bay Length (ft)							120			115		
Base Capacity (vph)		528			561		540	906		429	895	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.17			0.59		0.06	0.41		0.18	0.26	

Intersection Summary

Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 14.1		Intersection LOS: B	
Intersection Capacity Utilization 85.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 10: Central Highway & Cinder Road/Chapel Street



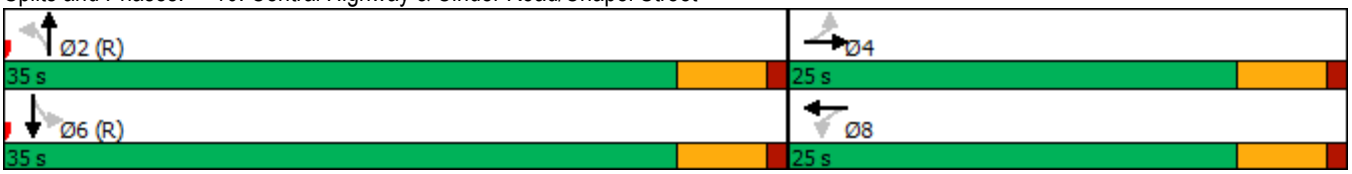


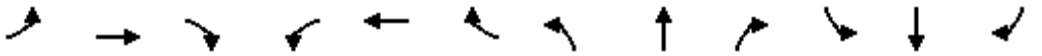
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	21	26	20	32	59	28	265	14	29	222	6
Future Volume (vph)	9	21	26	20	32	59	28	265	14	29	222	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15	11	12	12	11	12	12
Grade (%)		-5%			3%			1%			3%	
Storage Length (ft)	0		0	0		0	120		0	115		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			No			No			No			No
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		264			299			436			513	
Travel Time (s)		7.2			8.2			9.9			11.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	11%	0%	4%	0%	2%	15%	7%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	60	0	0	118	0	30	297	0	31	242	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		58.3%	58.3%		58.3%	58.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.0			20.0		30.0	30.0		30.0	30.0	
Actuated g/C Ratio		0.33			0.33		0.50	0.50		0.50	0.50	
v/c Ratio		0.10			0.20		0.05	0.33		0.07	0.26	
Control Delay		14.5			15.5		8.1	10.2		8.3	9.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		14.5			15.5		8.1	10.2		8.3	9.6	
LOS		B			B		A	B		A	A	
Approach Delay		14.5			15.5			10.0			9.5	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)		15			30		5	59		5	47	
Queue Length 95th (ft)		37			63		16	104		17	84	
Internal Link Dist (ft)		184			219			356			433	
Turn Bay Length (ft)							120			115		
Base Capacity (vph)		582			583		555	913		474	914	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.10			0.20		0.05	0.33		0.07	0.26	

Intersection Summary

Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay: 11.0		Intersection LOS: B	
Intersection Capacity Utilization 50.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Central Highway & Cinder Road/Chapel Street



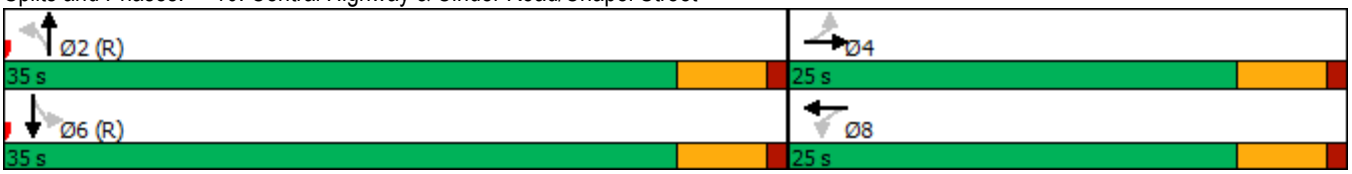


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	29	36	81	54	189	27	284	68	90	200	10
Future Volume (vph)	21	29	36	81	54	189	27	284	68	90	200	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15	11	12	12	11	12	12
Grade (%)		-5%			3%			1%			3%	
Storage Length (ft)	0		0	0		0	120		0	115		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			No			No			No			No
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		264			599			436			513	
Travel Time (s)		7.2			16.3			9.9			11.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	0%	3%	2%	1%	4%	1%	8%	4%	4%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	356	0	30	387	0	99	231	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		58.3%	58.3%		58.3%	58.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.0			20.0		30.0	30.0		30.0	30.0	
Actuated g/C Ratio		0.33			0.33		0.50	0.50		0.50	0.50	
v/c Ratio		0.18			0.64		0.06	0.43		0.24	0.26	
Control Delay		15.4			23.3		8.1	11.5		10.5	9.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		15.4			23.3		8.1	11.5		10.5	9.6	
LOS		B			C		A	B		B	A	
Approach Delay		15.4			23.3			11.2			9.9	
Approach LOS		B			C			B			A	
Queue Length 50th (ft)		24			107		5	82		19	44	
Queue Length 95th (ft)		53			187		16	141		45	81	
Internal Link Dist (ft)		184			519			356			433	
Turn Bay Length (ft)							120			115		
Base Capacity (vph)		531			555		540	896		414	895	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.18			0.64		0.06	0.43		0.24	0.26	

Intersection Summary

Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 88.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 10: Central Highway & Cinder Road/Chapel Street



Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	41	146	303	10	5	21
Future Vol, veh/h	41	146	303	10	5	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	70
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	2	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	6	2	2	2	2
Mvmt Flow	52	185	384	13	6	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	397	0	-	0	680	391
Stage 1	-	-	-	-	391	-
Stage 2	-	-	-	-	289	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1162	-	-	-	417	658
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	760	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1162	-	-	-	396	658
Mov Cap-2 Maneuver	-	-	-	-	396	-
Stage 1	-	-	-	-	649	-
Stage 2	-	-	-	-	760	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1162	-	-	-	396	658
HCM Lane V/C Ratio	0.045	-	-	-	0.016	0.04
HCM Control Delay (s)	8.2	0	-	-	14.2	10.7
HCM Lane LOS	A	A	-	-	B	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0.1

Intersection	
Intersection Delay, s/veh	2.9
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	10	18	56
Demand Flow Rate, veh/h	10	18	57
Vehicles Circulating, veh/h	18	20	0
Vehicles Exiting, veh/h	20	37	28
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	2.7	2.8	3.0
Approach LOS	A	A	A

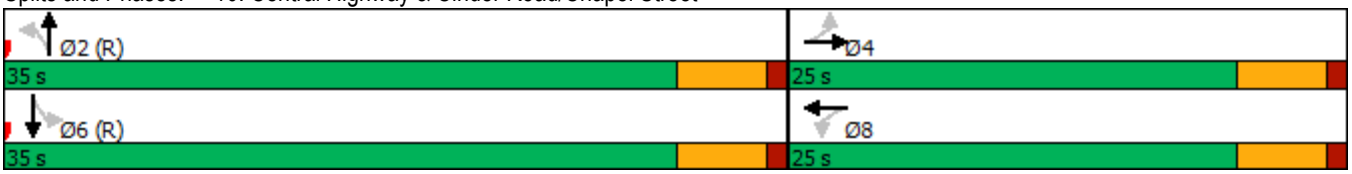
Lane	Left	Left	Left
Designated Moves	TR	LT	LR
Assumed Moves	TR	LT	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	10	18	57
Cap Entry Lane, veh/h	1355	1352	1380
Entry HV Adj Factor	1.000	1.000	0.982
Flow Entry, veh/h	10	18	56
Cap Entry, veh/h	1355	1352	1356
V/C Ratio	0.007	0.013	0.041
Control Delay, s/veh	2.7	2.8	3.0
LOS	A	A	A
95th %tile Queue, veh	0	0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	27	26	42	38	81	28	265	34	49	222	6
Future Volume (vph)	9	27	26	42	38	81	28	265	34	49	222	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15	11	12	12	11	12	12
Grade (%)		-5%			3%			1%			3%	
Storage Length (ft)	0		0	0		0	120		0	115		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			No			No			No			No
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		264			599			436			513	
Travel Time (s)		7.2			16.3			9.9			11.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	11%	0%	4%	0%	2%	15%	7%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	67	0	0	171	0	30	318	0	52	242	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		58.3%	58.3%		58.3%	58.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.0			20.0		30.0	30.0		30.0	30.0	
Actuated g/C Ratio		0.33			0.33		0.50	0.50		0.50	0.50	
v/c Ratio		0.11			0.31		0.05	0.35		0.11	0.26	
Control Delay		14.6			16.8		8.1	10.5		8.8	9.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		14.6			16.8		8.1	10.5		8.8	9.6	
LOS		B			B		A	B		A	A	
Approach Delay		14.6			16.8			10.3			9.5	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)		16			45		5	64		9	47	
Queue Length 95th (ft)		40			88		16	113		25	84	
Internal Link Dist (ft)		184			519			356			433	
Turn Bay Length (ft)							120			115		
Base Capacity (vph)		586			557		555	898		456	914	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.11			0.31		0.05	0.35		0.11	0.26	

Intersection Summary

Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.35			
Intersection Signal Delay: 11.6		Intersection LOS: B	
Intersection Capacity Utilization 65.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 10: Central Highway & Cinder Road/Chapel Street



Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	64	111	12	12	50
Future Vol, veh/h	46	64	111	12	12	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	70
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	2	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	7	4	2	2	2
Mvmt Flow	47	65	113	12	12	51

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	125	0	-	0	278	119
Stage 1	-	-	-	-	119	-
Stage 2	-	-	-	-	159	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1462	-	-	-	712	933
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	870	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1462	-	-	-	689	933
Mov Cap-2 Maneuver	-	-	-	-	689	-
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	870	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1462	-	-	-	689	933
HCM Lane V/C Ratio	0.032	-	-	-	0.018	0.055
HCM Control Delay (s)	7.5	0	-	-	10.3	9.1
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.2

Intersection	
Intersection Delay, s/veh	3.0
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	24	43	63
Demand Flow Rate, veh/h	24	44	64
Vehicles Circulating, veh/h	44	23	0
Vehicles Exiting, veh/h	23	41	68
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	2.9	3.0	3.0
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	TR	LT	LR
Assumed Moves	TR	LT	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	24	44	64
Cap Entry Lane, veh/h	1319	1348	1380
Entry HV Adj Factor	1.000	0.977	0.984
Flow Entry, veh/h	24	43	63
Cap Entry, veh/h	1319	1317	1358
V/C Ratio	0.018	0.033	0.046
Control Delay, s/veh	2.9	3.0	3.0
LOS	A	A	A
95th %tile Queue, veh	0	0	0